AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A microfluidic device comprising one, two or more microchannel structures, each of which comprises a reaction microcavity intended for retaining a solid phase material in the form of a wet porous bed, wherein each of said one, two or more microchannel structures comprises the solid phase material in a dry state that comprises a bed-preserving agent comprising one or more compounds having bed-preserving activity.

2. (Previously Presented) The microfluidic device according to of claim 1, wherein at least one of said one or more compounds a) exhibit a hydrophilic group that may or may not be non-ionic, and b) are water-soluble.

3. (Withdrawn) The microfluidic device according to claim 1, wherein at least one of said one or more compounds is a polyol.

4. (Withdrawn) The microfluidic device according to claim 1, wherein at least one of said one or more compounds exhibits a carbohydrate structure.

5. (Withdrawn) The microfluidic device according to claim 1, wherein at least one of said one or more compounds is a disaccharide.

6. (Withdrawn) The microfluidic device of claim 1, wherein at least one of said compounds is a microcavity adherence agent.

7. (Previously Presented) The microfluidic device according to claim wherein said solid phase material that is in a dry state comprises a non-volatile buffer.

8. (Previously Presented) The microfluidic device according to claim 1, wherein said dry state has been accomplished within the microfluidic device.

9. (Previously Presented) The microfluidic device according to claim 1, wherein said dry state has been obtained under subatmospheric pressure from the porous bed saturated with

an aqueous liquid above or below the freezing point of the liquid, or by drying the porous bed saturated with water in ambient atmosphere with or without warming.

10. (Previously Presented) The microfluidic device according to claim 1, wherein
    a) said solid phase material is in the form of porous or non-porous particles, and
    b) the porous bed is a packed bed of these particles.

11. (Previously Presented) The microfluidic device according to claim 1, wherein said solid phase material is swellable or not swellable.

12. (Previously Presented) The microfluidic device according to claim 1, wherein each of said one, two or more microchannel structures comprises an inlet arrangement with a volume-metering unit connected to the reaction microcavity.

13. (Previously Presented) The microfluidic device according to claim 1, wherein the device comprises two or more microchannel structures that are divided into one, two or more groups of microchannel structures, each group comprising an inlet arrangement which
    a) is common to all the microchannel structures of the group, and
    b) comprises
        (i) a common inlet port, and
        (ii) for each microchannel structure of the group, a volume-metering unit that in the upstream direction is connected to the common inlet port and in the downstream direction to the reaction microcavity of the microchannel structure.

14. (Previously Presented) The microfluidic device according to claim 1, wherein the inner wall of each of said volume-metering units have a sufficient hydrophilicity for being filled by capillarity once an aqueous liquid have entered the unit, and b) a valve at its outlet.

15. (Previously Presented) The microfluidic device according to claim 1, wherein each microchannel structure is designed for driving a liquid flow through at least a portion of the structure by centrifugal force.

16. (Previously Presented) The microfluidic device according to claim 1, wherein the solid phase material comprises an immobilized reactant.

17. (Previously Presented) The microfluidic device according to claim 16, wherein the immobilized reactant is an immobilized ligand L which is a member of an immobilizing affinity pair comprising L and the affinity counterpart B to L and which is intended for the immobilization of a conjugate B-AC_S to the porous bed where AC_S is an affinity counterpart to a solute S.

18. (Canceled)

19. (Previously Presented) The microfluidic device according to claim 17, wherein the affinity constant in mol/l for the immobilizing affinity pair is at most 10^3 times larger than the corresponding affinity constant for streptavidin and biotin.

20. (Previously Presented) The microfluidic device according to claim 17, wherein B has one or more binding sites for L, and L has two or more binding sites for B.

21. (Previously Presented) The microfluidic device according to claim 17, wherein at least one of S and AC_S and/or at least one of L, B, AC_S and S comprise a structure selected from the group consisting of poly/oligo-peptide and protein structure, carbohydrate structure, nucleotide structure and lipid structure.

22. (Withdrawn) The microfluidic device according to claim 4, wherein the carbohydrate structure is a polysaccharide structure or an oligosaccharide structure.

23. (Withdrawn) The microfluidic device according to claim 5, wherein the disaccharide is trehalose.

24. (Previously Presented) The microfluidic device according to claim 7, wherein the non-volatile buffer is a phosphate buffer.

25. (Currently Amended) The microfluidic device according to claim 17, wherein one of L and B is selected from biotin-binding compounds while the other one is selected from streptavidin-binding compounds.

26. (Previously Presented) The microfluidic device according to claim 17, wherein L has one or more binding sites for B, and B has two or more binding sites for L.

27. (Previously Presented) The microfluidic device according to claim 1, wherein the solid phase material comprises an immobilized affinity reactant for affinity capturing of a solute S.

28. (Previously Presented) The microfluidic device according to claim 24, wherein the buffer has potassium as a counter-ion.

29. (Previously Presented) The microfluidic device according to claim 27, wherein the affinity constant for formation of the complex between the solute and the affinity counterpart to the solute is at most 10^{-6} mole/l.